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NORTH AND SOUTH DAKOTA HORTICULTURE

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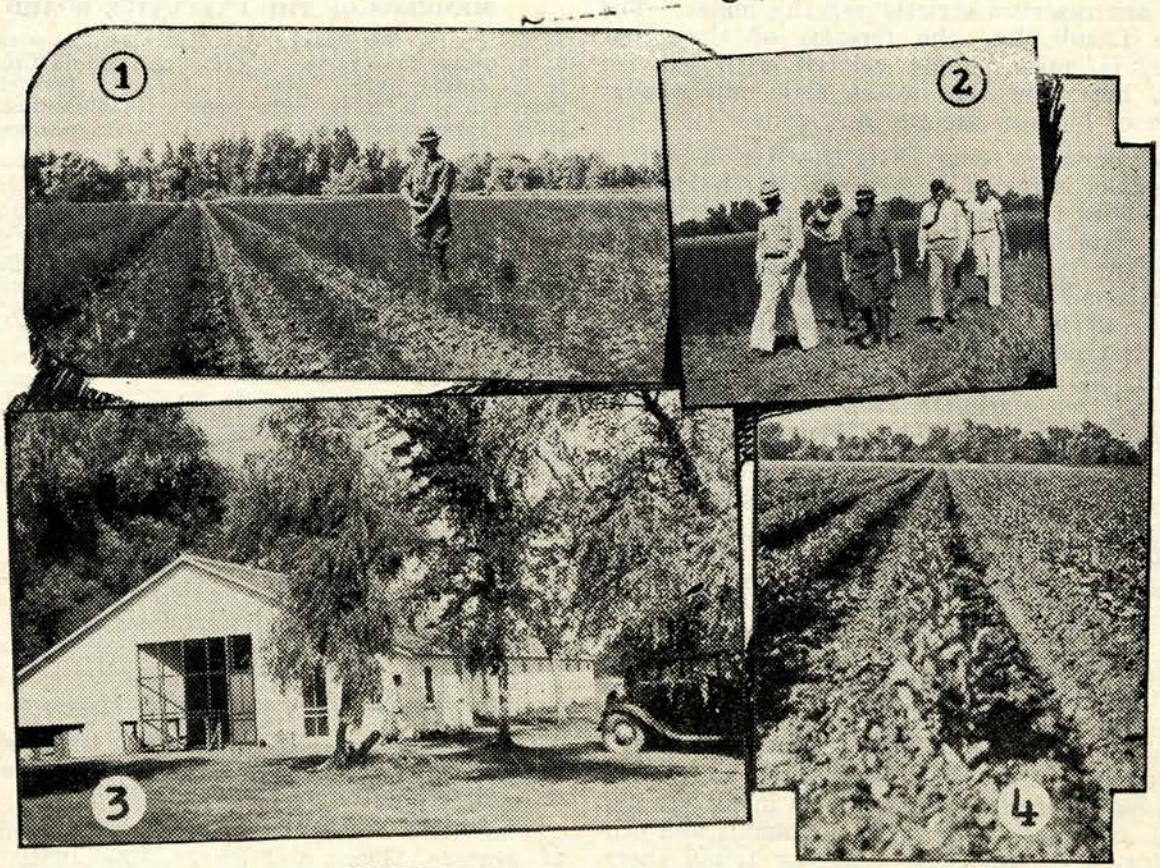

WHERE THE SHELTERBELT BEGINS

Scenes at the Shelterbelt Nursery, near Baltic, S. D., rented to the Government by Mr. H. N. Dybvig, of Colton. Courtesy of the Argus-Leader.

THE LAZULI BUNTING

By O. A. Stevens.

This bird belongs to a small group of finches which nature has marked with varied hues of indigo, blue, red and purple. For the most part, they belong to the tropics, the Painted Bunting appearing at times in Florida and the Varied Bunting in southern Texas. The Indigo Bunting is a familiar bird in the eastern United States and the Lazuli is found over most of western United States, nesting as far north as southern Canada and migrating to Mexico for the winter.

It is a small bird, about the size of a chipping sparrow. The entire head of the male is a turquoise blue and the rest of the upper parts not quite so bright. The breast is brownish, the belly white, and the wings crossed with two bars of white or brownish. The bright colors in this group are reserved strictly for the males. The female Lazuli, like the females of the other species, is quite plainly colored with grayish brown, buffy on the breast and only a suggestion of blue on the tail and wings.

These buntings occur along the Missouri River and smaller streams in western North Dakota. Occasionally they are seen in the eastern part of the state during migration. A number may be seen at migration time but apparently only an occasional pair are usually found during the nesting season. They are late spring migrants, being first noted last spring near Bismarck on May 26, and at Wilton May 29. At the latter place they were seen in 1932 on May 19. They are commonly found among bushes or tall weeds.

This is another of the western species which were first discovered by Thomas Say and described by him in 1823. On Major Long's expedition to the Rocky Mountains Say first found the birds near Canyon City, Colorado. Thirteen years later, Thomas Nuttall reported that he found them common from the Rocky Mountains to the Pacific, and that the only nest which he found was placed in the forks of a stout bracken fern. His companion, Townsend, reported that they usually nested in willows along streams.

Other naturalists did not fail to notice this bird. Say's interests were chiefly in insects and shells. New species of birds, mammals and other animals, he described when he found them, but often without much other comment. It is significant that he gave to the Lazuli bunting the name "amoena," meaning charming or lovely. Maximilian and Audubon both mentioned seeing the birds along the Missouri River. Nuttall considered the song similar to that of the goldfinch, "lively and melodious." Coues describes it as a "simple and even feeble strain, rather monotonous, and given in a tripping, desultory way, as if the little performer were tired or indifferent."

The nests are built in low bushes, composed of grasses, fibers and leaves, lined with horse hair or fine grass stems. The eggs are bluish white, usually four in number. There seems to be little known about their food habits, but presumably they feed upon weed seeds and insects like other sparrows. Three birds collected in Utah had eaten a considerable number of alfalfa weevils, also grasshoppers, cicadas and weed seeds.

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TABLE OF CONTENTS **Page**

NORTH DAKOTA STATE HORTICULTURAL SOCIETY NEWS LETTER

A. F. Yeager, Secretary, Fargo, N. D.

Two of the new plum varieties which fruited for us this year for the first time and which seem to have much merit are Superior and Fiebing. Superior is a new Minnesota Fruit Breeding Farm variety which is large, egg-shaped, and has very firm flesh. Those of you who are familiar with Hanska and Kaga will find in this plum much the same odor and flavor, the Superior is considerably larger. Fiebing is a variety introduced by Chas. Haralson since he left the Minnesota Fruit Breeding Farm. Mr. Haralson, incidentally, was with Dr. Hansen in South Dakota assisting in fruit breeding work there many years ago. He went from there and helped in making many of the promising crosses from the Minnesota Fruit Breeding Farm. He is now engaged in private nursery work. Fiebing produced a very heavy crop on three rows of trees and the fruit was easily the largest plum in our orchard.

Taken all around, this year has been the best fruit year we have had since I came to North Dakota. We have picked apples by the hundreds of bushels from the experimental orchard.

A recent visitor to our experimental grounds was a young man from New Zealand. He says that sweet corn is unknown there. Also, that pumpkins are used there as a vegetable with meat, and pumpkin pies are an unknown quantity. Our so-called summer squash are called marrows.

Many of the insects which produce wormy apples will be destroyed if one scrapes off the rough bark of old apple trees which furnishes hiding places for them. In addition to the scraping, experiments indicate that the use of a band of paper treated with beta naphthol put on early in June will trap many of the insects. The chemical kills those which crawl under the paper band to hide.

The most productive raspberry in our plots this year was P-117, distributed last year as a Horticultural Society premium. Take care of your plants and be prepared to report on them next year.

There seems to be an increasing demand for yellow tomatoes to be used as tomato juice. Those who have tried them claim that the product is more attractive than that from red tomatoes. Possibly tomato juice manufacturers are overlooking a good bet here. Fargo Yellow Pear is a favorite in this neighborhood to use for this purpose.

We have a very good crop of butternuts and black walnuts this year. If you care for a few for planting, send for them immediately so they may be planted before the ground freezes too deeply. We ask only that you send enough stamps to cover the cost of mailing. The package will probably weigh around four pounds. In order that we do not have to repeat the directions with each shipment it is suggested that they be planted about 4 inches deep, putting 3 or 4 nuts where each tree is to stand. It is best not to move the young trees. Butternut may be expected to begin to bear in 5 to 6 years if it does well; black walnut will probably take 10 years or more to reach bearing age.

HOME DRYING OF FRUITS AND VEGETABLES is the title of North Dakota Extension Circular Number 131. It contains much useful information.

According to the CONSUMER'S GUIDE, a quart of strawberries contains more Vitamin C than two cups of orange juice.

Cabbage is cheap this year. If you wish to make sauerkraut the following recipe from Iowa State College might be useful: "Kraut is prepared from firm, well ripened heads of cabbage. Bursted heads of summer cabbage may be used. Allow to stand at room temperature one day to wilt. Trim outer leaves and wash heads. Shred or chop the cabbage as fine as desired. Use 1 teaspoon salt and ½ teaspoon sugar to each quart of cabbage. Pack the cabbage into a quart jar as tightly as possible, leaving 1½-2 inches of space at the top of each jar to allow room for the fermentation. It usually takes 2-3 quarts of cabbage for 1 quart jar. The best quality kraut is produced at 70° F. or lower. It takes 4-6 weeks for kraut to cure properly. Seal tightly and let stand until the foam which rises during fermentation settles back into the liquid, when it is ready to use. If used immediately, it may be combined with some water and meat fryings and cooked until tender uncover or served raw in salads. Diced beets make an interesting combination with sauerkraut in a salad. Otherwise these jars may be processed in a hot water bath for 20 minutes to be kept for summer use. It may not be necessary to process the kraut packed in jars, if kept in a cool place. When making a large quantity of kraut, the cabbage may be packed in a stone jar, using the same proportions as given above. After the fermentation period is over, it should be canned. Heat the kraut to 130° F. in its own juice, pack in sterilized jars, partially seal and process in a hot water bath for 20 minutes. Seal and cool as quickly

as possible. Store in a cool place. It may not be necessary to can the kraut, if it can be stored in a cool place, and the sour taste is not objectionable. Canning kraut prevents further fermentation."

We had so many inquiries from people as to how to treat amarylllis (Hipeastrum) plants that we wrote to Washington for information from the men who are spending a great deal of time in breeding fancy varieties of this flower. They say that amaryllis should be treated so that it will grow freely during the summer, then be allowed to dry off and ripen its bulbs gradually in the autumn after which the plants should be placed where they are kept at a temperature of about 40° F. with the pots laid on their sides. They should ordinarily be left dormant and kept very dry until sometime in January. They should then be taken into the house where a temperature of around 60° F. is maintained. During the time they are growing, the suggestion is made that the plants be given liquid manure once or twice each week.

Florists say that poinsettas and dahlia flowers will last much longer if 3 or 4 inches of the stems are inserted for a few minutes in boiling water.

Mr. Hilborn of the Northwest Nursery at Valley City is quite a booster for the Dame Blanc mock orange. He says that they are very winter hardy and make a small very floriferous plant. He is also a lover of the Dr. Mills rose.

Dr. Heinicke of Cornell University says that trees use fertilizer nutrients but manufacture their own food. By that he means that the energy producing material that the plant uses and that animals get when they eat plants comes largely from the air and is manufactured by the plant. Many people do not realize that the top of a plant feeds the roots, rather than the reverse.

In one of its conservation programs the United States Government is now raising wild fruit plants by the millions in order to supply food for birds. Undoubtedly these wild fruit patches may also supply some fruit for home owners nearby.

It is estimated that it will require 3 billion trees to plant the shelterbelts now being established by the Federal Government.

T. J. Talbert in AMERICAN FRUIT GROWER writes that a good formula for spraying evergreen trees to control red spider is oil emulsion used at the rate of 1 gallon in 50 gallons of water and sprayed on very thoroughly.

We have just answered an inquiry as to how to handle buckthorn seed. There are two ways in which this seed might be handled. Either plant the berries out of doors immediately this fall or else gather the berries, mash them and mix them up with several times as much sand as there are berries. Put this mixture in a box and bury it a foot deep in the soil on the north side of a building. In the spring dig up the box and plant the seed and sand mixture about like you would vegetable seeds. This process is called stratification and may be used with fruit seeds of all kinds.

A soil's fertility depends not only on the amount of the various kinds of chemical elements which may be in it, but also on the kind of living organisms it contains. A soil might have an abundance of chemical elements of all kinds and still be very unproductive because these elements have not been put into the proper form by bacteria and fungi so that the higher plants can use them.

The ability of the Weather Bureau to predict with certainty the probability of temperature changes within the next day is of great importance to horticulturists. Hence, all of us should be interested in some of the newer devices for making Weather Bureau predictions more accurate. One of the things now being done which seems to be of great importance in this respect is the determining of conditions at the various weather stations, not only at the surface but high up in the air. The direction of the wind, temperature, amount of moisture in the air, etc. are all determined up to great heights. This fact was forcibly brought to my attention this summer by finding two brightly colored toy balloons in the experimental orchard. These balloons had been released by a government aeroplane thousands of feet above the earth to help indicate the wind direction there. Naturally, our young son, who is quite an aerial enthusiast, has been more interested in aeroplanes than ever since then.

According to Professor Goodman of Cornell University, good irrigation requires the application of the equivalent of one inch of rainfall per week. That means more than 27,000 gallons of water per acre. In order to apply this much water in one day you must have a pump that will deliver 45½ gallons per minute which will require the use of from 1 to 3 horsepower, depending on conditions.

We have seen several samples of potatoes this year which look splendid on the outside, but which show brown spots and blotches through the flesh on the inside. These blotches are not in the form of a ring but scattered through the flesh. Our plant pathologist says that this is not due to any disease organism, but is a physiological trouble due to some pecularity of the growing conditions this year. Some patches appear entirely worthless for table stock. They might be all right for seed purposes since they

(Continued on page 119)

FALL PLANTING.

Purley L. Keene

Yes, fall is the ideal time to plant herbaceous perennial flowers and perennial vegetables. All spring blooming bulbs must be planted in the fall. Farther south trees and shrubs are more advantageously planted in the fall. Experts agree that fall is the ideal time to plant for several very good reasons which every gardener knows if he will stop to consider them. Here are some of the advantages gained by fall planting.

First: Soil conditions are much more ideal, the soil being warmer and more workable in the fall than it is in the spring, a combination which you may often wait many days for in the spring of the year.

Second: Fall rains help the plant to become established in its new home settling the dirt around its roots. Actual root growth will very frequently take place in the fall of the year before the ground freezes so that the plants will be ready to start growing as soon as the weather warms up in the spring of the year long before conditions are favorable for spring planting. The extra growth thus secured the first season will practically equal a year's growth, thus giving you almost a year's gain in the establishment of your perennial flower border or your perennial vegetable patch.

Third: Fall planting can be done any day the soil is in good condition before freezing. There are many such days during the fall months as our fall weather lingers on into winter thus providing ample time for the digging, dividing and transplanting of your perennial plants—quite in contrast from the time allotted to this work in the spring when there are so many things to do.

Fourth: Stalks are freshly dug from the nursery and full of vitality and vigor. Winter stored stalks or plants are apt to be slightly dried out which delays their starting when planted in the spring. I am sure you have all experienced observing newly spring planted plants standing still several weeks before starting new growth and in some cases they are so dried out in winter storage as to be of no value, making little or no growth the first year after planting.

Fifth: Your favorite varieties or kinds may be sold out if you wait until spring. In fall there is usually a much more complete line and you are able to secure the sizes, varieties and grade of stock you desire.

Sixth: Nurseries are so rushed in the spring that they can not always make delivery at the time most suited to you. Your stock may arrive when the soil is in an unfavorable condition for planting. Avoid this inconvenience by planting in the fall all plants which may be safely planted at this time. With everything to gain by planting in the fall and with such promise of a greater garden next year by so doing, surely it is worth while to do your planting this fall. You may plant as long as the winter allows; all the odds and ends; a plant here and there to be taken up and divided should be done now. The spring planting season is all too short at the best so it is well to get all possible work done that can be done in the fall.

If stock which is ordered from nurseries has not as yet been delivered, it will be well to prepare the ground ready for planting and to cover it with a mulch of straw to keep it in good physical condition until your stock arrives. This will save you work when the stock does arrive and enable you to plant it immediately. If conditions at the time of the arrival of the stock are unfavorable for planting, the stock should be unwrapped, the bundles untied, the roots spread out in a shallow, sloping trench and covered with soil. This process is called "heeling-in". The stock may be kept thus heeled-in for several days or even weeks until the weather is favorable for planting. In fact, if it is necessary, the stock may be kept heeled-in over winter. Should this become necessary it is desirable to have additional soil over the roots and to cover with soil at least one-half of the top, leaving just the tip ends of the branches out of the soil.

Besides the out-door perennial plants and bulbs, there are a number of bulbs which may be potted for in-door culture this winter. October is the best time to pot bulbs for in-door blooming this winter. By making a careful selection of different kinds of bulbs of different varieties, it will be possible to have a continuous succession of blooms from Christmas until spring. Those bulbs adapted to in-door culture include the following: some of the Tulips, Hyacinths, Scillas, Snowdrop, Narcissus, Freesias, and Daffodils. Besides these several of the hardy lilies may be grown for in-door winter bloom. The Regal Lily, the Easter or Madonna Lily and the Amaryllis Lily may be grown successfully in pots indoors. It will take several weeks longer for the lilies to come into bloom than it does for the other bulbs but their beauty is well worth waiting for. They add a note of unusualness to the indoor flower garden.

(Continued on page 114)

SEED COLLECTING FOR THE SHELTERBELT

Max Pfaender.

Most of our native species of trees and shrubs will be used in the Shelterbelt plantings and other federal planting projects. In addition to these there will also be planted the more desirable of our introduced species, such as Chinese elm, caragana and Russian Olive.

Practically every tree, shrub or vine of value and of great hardiness will find some use in the future federal plantations. Aside from the Shelterbelt plantings, there will be plantings made for wind and water erosion control, for the protection and feeding of wild life, for stream bank improvement and other purposes.

Under the supervision of the Plains Shelterbelt Project of the United States Forest Service there are now about one hundred fifty acres of growing nursery stock in South Dakota. The main plantings consist of Ash, honey locust, oak, Russian olive, hackberry, Chinese and American elm.

The collection of seed for planting in the fall of 1935 and spring of 1936 is starting now, with caragana and flowering currants. Soon it will be time to collect chokecherry, honeysuckle and a little later, buffaloberry, wild plum, aromatic sumac, smooth sumac, and many other species as the season advances. Large amounts are to be collected of every important species, and smaller amounts of species used only for special purposes. An effort is being made to secure all the necessary seed of native species from native plants within the Shelterbelt zone. In case of shortage, as possibily with Red Haw (Crataegus) and a few others, collecting will necessarily extend beyond this zone, either east or west.

Seed from introduced species will be made largely from older and successful plantations within the zone or near by. Many collecting areas of all species, and plantations have been located for seed collecting purposes. Seed of some species is scarce this year, due to weather conditions, especially such as caragana, wild plum, hackberry, and a few others. Many members of the society no doubt know of excellent collecting areas for some of the species, and it would be appreciated by the Forest Service if such information would be submitted to A. L. Ford, State Director, Plains Shelterbelt Project, Brookings, South Dakota.

Many of you horticulturists have supplied us with valuable information and moral support in the past, and we wish to assure you that it is greatly appreciated by our organization.

MAX PFAENDER,
Associate Forester.

FALL PLANTING

(Continued from page 113)

Plant only one, or at most two, variety or colors of bulbs in a container. Mixtures of varieties which bloom at different times are not so pleasing indoors as they are outdoors.

When potting these plants, pieces of broken pottery should be placed in the bottom of the pot over the drainage hole to prevent this hole from becoming clogged. It is helpful to place a little gravel in the bottom of the pot. This aids also in assisting drainage of excess moisture out of the pot. The pots are then filled with good garden, sandy loam soil to which has been added an equal amount of peat moss or commercial humus and a little sand, or the soil may be made by mixing together fertile sandy loam garden soil, sand and humus or peat moss in equal quantities of one-third each. In each pot or pan place from three to a dozen bulbs depending upon the size of the bulb and the size of the pot, spacing them so they will be as far apart as the diameter of the bulbs which are planted. The bulbs for indoor forcing are not planted as deeply as they are in outdoor culture. They should be about an inch below the top of the soil. A half inch space should be left between the top of the soil and the top of the pot for convenience in watering. After potting the bulbs, the soil should be thoroughly wetted or watered and then the pots placed away in a cool, dark corner of the cellar, or if this is not available place them in a cold frame in a protected place outdoors where the frame may be kept cool and dark. Three requirements are necessary for this storage place,—cool temperature, moist atmosphere and darkness.

When the bulbs have formed a mass of roots and the tops have begun to push through the soil, they may be brought up into a warmer and lighter place and gradually into the living room. It is better not to make the change too abruptly from the cool, moist and dark storage cellar to the sunny, warm, dry living room. It takes some varieties several weeks and others two or three months to reach the proper condition of root growth for taking from the storage room to the house or green house. They should be placed in a sunny window in one of the living rooms of the home and watered frequently enough, usually daily, to keep the soil moist but not wet or water-logged. These plants are sun and moisture loving plants and should be treated accordingly.

The Hyacinth and Narcissus are well adapted to water culture. They are planted in shallow bowls filled with rock and water. These bowls should then be placed in a cool, dark cellar for several weeks until root growth de-

(Continued on page 118)

THE PRESIDENT'S CORNER

F. X. WALLNER

F. X. Wallner

Another week of horticultural experience: On August 14th five of us, Mr. and Mrs. H. N. Dybvig, Mr. and Mrs. Lawrence Elsinger and myself, set out for Mandan, N. D., to attend the annual meeting of the North Dakota Society. It was the last real hot day of the season, 105 in the shade and windy. We arrived at the Aberdeen tourist park for the evening meal, and inspected the planting of the Northern Seed and Nursery Co., there, then went on to Edgeley, N. D., to stop for the night.

In the only room available, one of the party discovered a large truculent Pulex irritans, (flea to you), so in less than two minutes we were on our way north again. But we encountered no more towns nor camps and as it was past midnight, we camped out in the open field, using oat shocks wind break, shelterbelt and bed.

We were up and on our way at daylight and arrived at Bismarck for breakfast. As the N. D. meeting did not start 'till 2 P. M., we put in the time inspecting the Wills Nursery and the Shelterbelt Nursery.

The North Dakota meeting was replete with good talks, made by the best of people and there was a good display of Professor Yeager's new originations. We enjoyed every minute of it.

The next morning we inspected the great plant of the U. S. Great Plains Station, where all kinds of fruit, vegetables and grain are grown and also made a trip out to Lincoln Park, the site of old Fort Abraham Lincoln, where General Custer was stationed for several years and from which the start was made for what was destined to be his last campaign. There the Mandan Indian village is being rebuilt and restored, just as it was some 300 or more years ago, as this village was abandoned at the time of Lewis and Clark's visit there in 1805. Then we returned to Mandan to view the Missouri Slope Gladiolus show, then on up to the Country Club for dinner, where we were the guests of Mr. George F. Will.

After dinner we made a short visit to the new sky scraper State Capitol, then took our departure for Rugby, where I slept in the car, not nearly as comfortable as the oat shocks of the night before.

Off again at day-break, we reached the International Peace Garden by Sun up. How strange it seemed, in the quiet of the early morning just at first, while at the dedication, 4 years ago, there were 60,000 people and 12,000 cars at the same spot. We had breakfast there, a little beyond the monument, a little after Sun-up.

After taking a few snap shots, we went on North to Brandon where we visited the Patmore Nursery, then on up to Dropmore where Mr. F. L. Skinner has originated so many beautiful lilies and other desirable things. His nurseries are all located where big woods surround all plantings and that, to me seemed to be the big secret of his growing such wonderful Nursery stock.

The Boughen Nursery at Valley River was greatly damaged by an over-flow of the river, this spring and all of the nurseries have had lots of grief with rabbits, that have come in by the thousands, starved out by lack of food elsewhere.

We camped that night at Dauphin where there are several fine new camps, then in the morning, went south through the Riding Mountain National Park. Here we had our first trouble with muddy roads, but we wanted to see this forest and the spruce woods forest preserve, also the Elk, deer, moose and Buffalo that reside therein. On the south edge of the park is Lake Wesagaming and a beautiful new city has sprung up there, during the past few years. We continued due south to Brandon, where we camped for the night.

The next day was a full day indeed, we drove to Morden, 200 miles before breakfast, spent about 8 hours at Morden, then went on to Winnipeg for supper, then on to Crookston, Minn., where we called it a day, and spent the night. This was our third visit to Morden and the most valuable to all of us.

I was especially interested in the extensive trial plots of all different kinds of vegetables and small fruits. The staked Break-of-Day tomato had set a big crop of choice fruit, soon to ripen, but Professor Yeager's early types of tomatoes were showing up very well.

The three nurseries previously mentioned, may have had natural timber for protection but this Station was originally on the wind swept plains and all the wind-breaks, hedges and other protection, had to be planted. The shelterbelts are the great feature of Morden, every block of fruit trees having its own protection, the Caragana being much used for this purpose.

But the main thing responsible for the great success of this Station is the Superintendent, Mr. W. R. Leslie, one of the keenest minds in horticulture, combined with one of the most pleasing personalities. He is a man worth going a thousand miles to meet, even though one saw none of the wonderful Station his genius has built up.

When our Shelterbelt, now being planted

(Continued on page 120)

IN ARIZONA

A. L. Truax

A. L. Truax.

December 3rd found us at Prescott, Arizona, after nearly a month spent among the natural wonders, canyons, cliff dwellings and mountains of northern New Mexico and Arizona. It had been cold up there and at Prescott, which is a mile above sea level, it was 4 above zero, so we headed southward. As we rolled down into Phoenix, in the Salt River Valley amongst the palm trees, roses in blossom, and oranges and grapefruit hanging ripening on the trees, we said "here we rest."

We stayed in Phoenix 10 weeks and during the time we were there, there were only two very light touches of frost. Much rain fell, which was badly needed to replenish the sources of water supply for irrigation; consequently the air was damper at times than is usual in winter.

The inhabitants were complaining of colder weather than had been known there for 30 years. We saw more leather jackets and wool sweaters in Phoenix than we ever saw in North Dakota, while we were reveling in the, to us, comparative warmth and sunshine. We ate our Christmas dinner out of doors under spreading palms, with the sunshine all about.

For many miles above and below Phoenix, the Salt River Valley is irrigated. The staple crops are grapefruit, oranges, figs, grapes, cotton, and head lettuce. An almost endless variety of vegetables may be grown here in fall, winter, and spring when the gardens of the east are dormant. In October are planted beans, beets, carrots, cabbage, cauliflower, cucumbers, kohl-rabi, lettuce, onions, peas, radishes, spinach and turnips.

In this month also are planted the seeds of all annual flowers, and bulbs such as hyacinths, tulips, narcissus, paper whites, Spanish iris, anemones, crocuses and ranunculi. From then on, vegetables and flowers are being planted and maturing every month in the year.

Grapes, plums, peaches, apples, quinces, pears, dates and pomegranates begin to come in with August and last through to November, when the oranges and grapefruit begin to ripen and last on the trees until spring. Grapefruit and oranges can be bought very cheaply—fine large grapefruit, often as low as 15 to 20 cents per dozen, and oranges, as low as three dozen for 25 cents; and this tree ripened fruit is far superior to what we get, in the north, as the latter has to be picked on the green side, in order to stand shipping.

The grounds of the State Capitol, at Phoenix are very beautiful. Here are immense palms, together with other trees native to this region, a large variety of flowering shrubs, a cactus garden and other features of botanical interest. One wonders how everything is kept so beautiful there, the year around. The secret is plenty of water. At intervals the irrigation ditches are tapped and the grounds flooded until the water stands six inches, to a foot deep in places. This is done just as often as necessary—if I only could have that amount of water in North Dakota!

While at Phoenix we attended a meeting of the Arizona Cacti and Floral Society, which was held at the home of a Mrs. Webster, in Arcadia, a suburb of Phoenix. The subject was "roadside conservation" and two highway engineers were present who talked on plans to preserve the natural beauty of the highways. There is a state law in Arizona making it a penal offense to pick or destroy flowers or plants within 500 feet of any highway.

All this is in direct contrast to the policy of many northern states, where C. C. C. employees were put to work clearing the roadside and destroying and burning the natural growth. That always seemed lamentable to me—destroying growth that harbored birds and furnished them with nesting places and wild fruit and berries for food and made sheltered places where wild flowers might grow.

Mrs. Webster, at whose place the meeting was held, has a cactus collection said to be worth $35,000, and it was indeed a treat to be taken through her grounds and shown the wonderful collection, gathered, not from all over the world, but from North and South America; for no cacti are native to the Eastern Hemisphere.

When we left Phoenix for Tucson Febuary 11, Anemones and Ranunculi, Daffodils and other narcissi, and the Chinese Jasmine, Jasminum primulinum, were already blooming in Phoenix gardens and the annuals were well along to the blooming stage. Tucson, Arizona is higher and somewhat cooler than Phoenix, and irrigation is not practiced there to any great extent. As a consequence the air is dryer and many who go south for their health prefer Tucson on account of these considerations.

During our stay in Tucson we saw, on March 6th the first wild flowers of the desert; the beach primrose, Oenothera trickocalyx; a coreopsis of some kind; the dainty blossoms of the filaree, Erodium cicutarum; a yellow flowering cress with which I was not familiar; and several dainty Gilias and while on the mountain slopes the first California poppies, Eschscholtzia californica, were showing like glints of sun-

(Continued on page 119)

SECRETARY'S CORNER.

W. A. Simmons.

Our office has been moved to the 4th floor of the Court House. Reason: there were so many that came in to lick the editor. After climbing six flights of stairs, we find them much easier to handle as most of the fight is taken out of them.

Some of us Sioux Falls members had the pleasure of attending a very fine flower show at Dell Rapids on the evening of Sept. 7th and returned with many lovely blossoms that will remind us of our friends there, for many days. It was a free show, which we think was a mistake. We cannot believe that a charge of 10 cents, would keep anyone away and an effort that entails so much hard work on the part of the Club members, should I believe, result in a little money being left in the Club treasury for future worth-while activities.

The lily family was represented by an auratum blossom, exhibited by Mrs. Jorgenson, a vase of tenuifolium, from the garden of Mr. Dybvig and two blossoms of the formosa lily, brought up by a Sioux Falls resident. It seemed strange to see the one very early lily in bloom at the same time with the other late blooming varieties. The explanation is that Mr. Dybvig grows lilies from seed, in a commercial way and digs the bulbs, to market in the spring, but there are always some small bulbs overlooked, that afterward come on and blossom, much later than is usual with the Coral lily.

Miss Shreve, the Secretary of the club, won the sweepstakes on her Glads and Mr. Dybvig, in his non-competing display, also had equally wonderful blossoms. I came away with a wonderful stalk from each, so large and perfect that all that see them have to touch them before they will believe they are real.

Here is the latest news from Blue Jay Squakie: in a recent letter, Mrs. Kinyon writes: "He loves to look at himself in a looking glass and will strut before it and flirt with himself. Recently my sister got one of those glasses that enlarge the face about 10 times, for taking out black heads, etc., and was using it, one day when the phone rang. She laid it on the table and up jumps Squakie for a look see. He took one look and let out a wild cry and ruffled his feathers. He sure thought he saw a giant Blue Jay. They tease him with it and now he runs when he sees the thing."

Am sure that all our members will join me in rejoicing that the next issue of "Who's Who in America" will include the name and biography of our friend Mr. John S. Robertson, an exceedingly well deserved honor.

In one of his always interesting and valuable talks, before the Iowa Society, on the subject of Plum Pollination Studies, Prof. Alderman recommended the use of native sorts as pollinizers. In concluding his talk he said: "There is another interesting feature in connection with the marketing of these so-called pollinizers. Don't think that these pollinizers in your orchard represent wasted ground, because with us there is a very active demand for so-called wild plums, and oftentimes people will take those native types in preference to the big ones and pay just as much money for them. The old wild-plum has quite a reputation in Minnesota for plum jam, jellies and so on." We are very glad to have such an eminent authority as Prof. Alderman speak a good word for the native plum.

The best of these selected seedlings have first of all the merit of adaptability and absolute hardiness and also of a fruit flavor, all their own that does not suffer by comparison with that of any other fruit with which I am acquainted. In starting a plum orchard, you will, no doubt set most of the area to the newer and larger hybrids but if you have received the proper advice, you will also include some of the Americana sorts as pollinizers. Then if the orchard is merely for home use, you will shed no tears when in not to exceed 10 years, you find the hybrids conspicuous for their absence and the old faithful native sorts, very much alive and producing their delicious fruit, as usual.

We have, stacked up in the office, a large quantity of back numbers of our magazine, especially of the old small form magazine of the years 1929-30 and 31. We thought quite well of these magazines when they were issued and they contain a lot of information, you are not likely to find elsewhere. It seems to me that they could be used to very good advantage by the Garden Clubs, who could distribute one months magazine at each meeting and by giving them out in that way, increase their attendance and add to the interest of their gatherings.

All Garden Clubs are welcome to these magazines: those near Sioux Falls, can call at the office and get them, when in town, while those at a greater distance, can have them if they are willing to pay express on them. If you want them, please drop me a card and let me know how many copies of each issue you require, so that I can have them ready when you call, or ship them, at my convenience.

BEEKEEPING NOTES

J. A. Munro

This year the main honey flow tapered off early. Here at Fargo it was practically over by August 8, which was the time when most of the sweet clover fields in the vicinity were being cut. It would seem probable that the cutting of the fields then and the subsequent lack of bloom had much to do with the early shutting down of the flow. Ordinarily there is enough sweet clover to provide a succession of bloom until fall, but the preceding years of drougth have had a telling effect on the plants, and practically the only clover available was in fields, which unfortunately for the beekeeper, were mowed in the midst of the nectar flow. In 1928 the situation, so far as the honey yield was concerned, was similar except that heavy rainfall during August prevented the bees from gathering honey.

Since colonies stored very little during the latter part of the season, it will be necessary to check the hives carefully to make sure they have adequate stores for wintering. Probably the safest policy will be to winter them in 1½- or 2-story hives.

A considerable amount of difficulty is usually experienced in trying to requeen colonies late in the season, as compared with requeening them in June and July. This difficulty would seem to be due to the larger proportion of old bees to young bees, in colonies, as the season advances. In early summer the colonies are composed largely of young bees, which usually accept a new queen more readily than do old bees. We will be interested in hearing from anyone who successfully requeens, during the latter part of the season, and also his method so that we may pass it on.

North Dakota beekeepers, including Messrs. O. F. Miller and P. J. McGlynn, Fargo; Charles Hausmann, Hillsboro; E. H. A. Fischer and Gordon Bell, Grand Forks; and W. O. Victor, St. Thomas, are serving as cooperators with the North Dakota Experiment Station on a more extended trial of Celotex as protective covering of bee hives at the different places mentioned above. They will report on the result of their experience with this type of winter hive protection next year.

Most beekeepers have found from experience that producing a crop of honey and selling it advantageously are two entirely different matters. There are few who are both good beekeepers and good salesmen. The latter is evidenced by the fact that almost daily we see store ads quoting 5-pound pails of honey ranging in price from 35 cents to 39 cents per pail. What must the producer get for it when the store can retail it for low prices?

North Dakota beekeepers will be interested in knowing that the last session of the State Legislature approved the sum of $1,000 for apiary inspection for the present biennium. This sum will take care of most of the emergency inspection work. American foulbrood is probably the most serious menace facing the bee industry, and money provided for preventing its spread is good insurance.

FOR BEES

Taken from Technical Bulletin No. 380, September 1933. Sweetclover in Great Plains Farming.

Sweetclover produces an abundance of honey of excellent quality and has long been recognized by beekeepers as the best crop that can be grown for honey production. It is roughly estimated that 50 per cent or more of the honey produced from clovers in the Great Plains comes from this crop.

Sweetclover has a long blooming season and the period of nectar secretion usually extends considerably beyond that of the true clovers and other early-blooming, honey-producing plants. By having both early and late maturing sorts of the biennial species followed by the annual Hubam a succession of bee pasture is provided from June until late in the fall.

FALL PLANTING

(Continued from page 114)

velops when they are brought up into the living room.

When you plan your bulb plantings this year, consider those varieties which are adapted to potting and indoor culture. You will be more than repaid when their cheery blooms liven up the indoor living rooms during several wintry months and late spring in advance of the flowers in the garden.

In closing, just a few reminders. Cannas, Dahlias, Gladiolas, and other tender summer blooming bulbs should be dug now, placed in shallow trays or boxes and allowed to dry in an open shed for a day or two and then stored in a frost proof, dry, moderately cool cellar. The best temperature for most of these will be in the neighborhood of 40 to 45° Fahrenheit. Rather than burn your leaves as they are raked up during the fall months use them for mulching your perennial borders or pile them in a pile to be rotted down for fertilizer. Store the excess vegetables for winter use.

IN ARIZONA

(Continued from page 116)

shine. Also in sheltered places we found Brodiea capitata showing its heads of lavender blue and the Desert Mallow, Spheralcea ambigua opening spikes of salmon red.

On the grounds of the University of Arizona at Tucson is a notable collection of all the Cacti native to Arizona, each labeled for the information of the visitor. Here also are specimens of practically every tree and shrub grown in the Southwest and these are also labeled. Here we saw on Feb. 7th a Judas tree of Red Bud in full bloom, the first I had ever seen.

One evening in Tucson while wandering through the old Spanish part of the city, we saw some wonderful flowering trees on the grounds of an old time Spanish mansion and as the gate was open, we made bold to enter. A dark-eyed Spanish lady who seemed to have seen better days was hoeing in the garden. When we asked her about the place and those beautiful flowering trees, she replied, to our surprise, "This is my home. Those flower-laden trees, of which you ask are the flowering Peach. Come, I will show you."

As she led us to them I fairly gasped with wonder and delight, for there indeed was the rare and wonderful Double Flowering Peach about which I had long read and wondered about and doubted. Tree after tree, they stood there, pink and crimson and striped and snowy white, the great double blossoms draping and bedecking the branches until they hung with the weight. The Spanish lady loaded our arms with the flower-laden twigs and branches, while we vainly protested, "We must accept this memento from her Spanish Garden," she said. She was glad and proud to do this for stranger visitors from the north. We carried the beauteous burden home and placed the branches in water and they lasted and beautified our room for days—the first and last Double Flowering Peaches I have ever seen. Spanish lady, we thank you.

We must not leave Tucson without mentioning a trip to the Giant Cactus forest east of that city. Here the government has set aside 160,000 acres in order to preserve the Giant Cactus or Saguaro, (Carnegia gigantea), which is typical of Arizona and the bloom of which is the state flower. Our first sight of Saguaro (pronounced Sa-whar-ro), called by the Indians "Old Man of the Desert", was when we were coming down the mountains from Prescott, toward Phoenix, and it was indeed a thrilling sight to see those great columnar leafless trunks, reaching heights of 40 to 60 feet, their grotesque arms extended almost humanly, standing there like sentinels, keeping guard over the desert they love. Woodpeckers build their nests in their trunks and branches, cactus wrens haunt them and in May and June the tips of trunks and branches are crowned with an aureole of white bloom.

The trip to the Saguaro National Monument was sponsored by the Arizona Naturalist Society. Professor Hemingway of the University of Arizona accompanied the party and spoke on the growth and habits of the Giant Cactus. Professor Voorhees, also of the U., spoke on the birds associated with it. Two ladies of the party, rode out with us in our car and proved to be Mrs. Dr. Wixon and Mrs. Craswell, both of Valley City; truly the world is growing smaller.

We had expected to go on to California with the coming of spring, but the lure of the desert was so strong that we decided to stay on and see it in bloom.

We left Tucson on March 11th and drove to Nogales, and thence via Patagonia, to Tombstone. As we neared the latter city we were greeted by a sign which read: "Welcome to Tombstone, the town too tough to die." The town which held 15,000 people in the roaring mining days, has shrunk to about 800, but it is far from being a "Ghost city," for the remaining ones are live wires who yet cherish and preserve religiously the relics of the past and still are firm in the faith that their town will come back.

We visited Boot Hill graveyard, where are buried many famous and infamous characters of the old days. The old bird cage theater, now a museum and many other historic sites. However, the great horticultural feature of the town is "the world's largest rose bush," which grows in the patio of the Arcade hotel. This giant bush is a White Banksia, over 45 years old. It grows from one trunk which is 40 inches in circumference and 8 feet high. It spreads over a trellis 30 x 40 feet, which requires 32 posts to support it, and 100 people can dine under its shade at one time. Its estimated blooms are approximately 150,000, and they are very fragrant. Truly a wonderful rose.

Note: This is the second of 4 articles by Mr. Truax. The third will appear next month.

NORTH DAKOTA NEWSLETTER

(Continued from page 112)

would not carry disease, but if the breakdown of the potato flesh continues throughout the winter there might be a tendency to produce numerous small sprouts next spring.

The best potato growers in Pennsylvania spray on an average of ten times during the season.

SOME LIVE GARDEN CLUBS

Victor Lundeen

On August 31st it was my privilege to attend the annual garden club show at the Wanakena and ElaChaye garden clubs of Fairmont, North Dakota. These two clubs are made up of farm women interested in garden work and the exchange of ideas which will enable each one of them to grow a better garden and make a better, more beautiful home.

I shall not attempt to describe the show except to say that one could tell at first glance that here was a group so interested in knowing more about the mysteries of plant life that they had joined together for the purpose of study and exchange of ideas. The show itself was a reproduction of the object lesson which they had studied. It showed in miniature form what it is possible to do in North Dakota towards creating more beautiful homes and happier families through the growing of fruits, vegetables, flowers, trees and shrubs.

It is not enough to say that I was impressed by the exhibit of fruits and flowers. There was something more present at this show than a mere display of garden products. One sensed the presence of real enthusiasm and interest, together with a friendly competition which was not fighting the desire of members to cooperate in putting an idea into definite form. It was the garden spirit.

I was informed that the membership of each club was limited to fifteen. I wondered why; and inquired. They all said, "We have so much fun and get so much enjoyment out of our garden club work that everybody is interested and wants to join. It is necessary to limit our membership because we wish to meet in our homes, and they are not large enough to accommodate a larger group."

Not only were the members of the clubs themselves enthusiastic, but I found that the entire community took an interest in the garden club movement. It was a busy season and during the day visitors were few, but when evening came husbands of the members, as well as other people from the town of Fairmont and the surrounding vicinity, came in to pay the show a visit. A tour through the town showed that the garden club spirit was catching, even though the people were not members. Most homes throughout the town showed recent improvements through the planting of flowers, trees and shrubs. They informed me that this spirit was due to the forming of the Wanakena and ElaChaye garden clubs which although found in the rural section had spread their influence into the town of Fairmont.

What has been done in Fairmont can be done in any other small town or rural community in North Dakota. We have cultural clubs, political clubs, business clubs, social clubs, and sport clubs. Why not garden clubs? Can you think of anything more worthwhile than the creation of beauty through the planting of trees, shrubs or flowers; and the personal satisfaction of growing vegetables at home to keep the family well fed at low cost?

PRESIDENT'S CORNER

(Continued from page 115)

under the expert direction of Mr. A. L. Ford, gives the protection they have at Morden, Manitoba, we may also be growing crops comparable to those they grow up there. I believe they should plant a belt of trees a mile wide around that spot in northern S. D. where the wind has started what looks like a desert.

From Crookston we came south to Moorhead and Fargo. At his Station Professor Yeager and his men were picking tomatoes. All had overshoes or rubber boots on, as there was mud, everywhere, so that we could not get around as much as we wished. But we should have a real meeting at Fargo next summer, when the S. D. Society and the N. D. Society, will have a two days joint meeting.

Our last stop was at the Block orchard on Big Stone Lake. I had never seen so many different varieties of Pear trees, of bearing age, all thrifty and one tree near the house was loaded with fruit, a little larger than the average fruit in other places.

On the very last lap of our journey, from Egan to Garretson, we were following a Sioux Falls car that was using the entire road, zigzagging, almost into the ditch, but always going back to the right side, when he met another car. There were times when it seemed he sure would go straight for a bill board or post, but he always missed it by inches. I hope he got home safely, as we did.

For fruit trees and small fruit plants to thrive and bear in our cold Great Plains Area takes truly iron-clad kinds, and after many years of severe tests in various localities come back to light, some truly marvelous hardy varieties of fruit trees. The Anoka apple, long one of our very hardiest kinds and bearing fruit in many of the Canadian Provinces now finds a mate in the Heyer No. 12 bearing good quality apples in central Sask., and is the only variety of apple surviving the severe winter of '32-'33 bearing a crop the next year in that region.

In crabs, we find the Dolgo, Amur and Olga coming thru unscathed in this same district.